

1. A genetic synthesis device for detecting DNA-type materials comprising:

- 3 a housing;
- 4 at least one glass slide member positioned in
- 5 the housing;
- 6 an elastomer member positioned in said
- 7 housing and in sealing arrangement with said at least
- 8 glass slide member, said elastomer member having at
- 9 least one channel thereon, at least one inlet port and
- 10 at least one outlet port;
- 11 wherein materials entering said housing
- 12 through said at least one inlet port are transported
- 13 through said at least one channel and out through said
- 14 at least one outlet port.

2. The genetic analysis device as claimed in claim 1 wherein a plurality of inlet ports and a plurality of outlet ports are provided.

3. The genetic analysis device as claimed in claim 1 wherein two glass slide members are provided, one positioned on each side of said elastomer member, and wherein said elastomer member has at least one channel on each side.

4. The genetic analysis device as claimed in claim 1 wherein said elastomer member provides a

3 liquid tight seal on said glass slide member without  
4 the need for adhesives, gaskets or other sealing  
5 members.

1                    5.     The genetic analysis device as claimed  
2     in claimed 4 wherein said elastomer member is made from  
3     a material selected from the group comprising PDMS, LSR  
4     or other elastomeric material having an inherent  
5     sealing affinity.

1 6. A system for analyzing DNA-type  
2 materials including at least one genetic synthesis  
3 device and a support base,

4 (a) said genetic analysis device comprising:

5 (i) a housing;

6 (ii) at least one glass slide member  
7 positioned in the housing,

8 (iii) an elastomer member positioned in  
9 sealing arrangement with said at least glass slide  
10 member, said elastomer member having at least one  
11 channel thereon, at least one inlet port and at least  
12 one outlet port;

(iv) wherein materials entering through said at least one inlet port are transported through said at least one channel and out through said at least one outlet port, and

17 (b) said support base comprising a housing  
18 having a control portion and a receptacle portion, said  
19 receptacle portion having space for a plurality of  
20 genetic analysis devices, and said control portion  
21 having a mechanism for eliminating waste materials  
22 ejected from said genetic analysis devices.

1 7. The system for analyzing DNA-type  
2 materials as claimed in claim 6 further comprising  
3 evaluation means for inspecting said at least one slide  
4 member.

1 8. A method for evaluating DNA-type  
2 materials comprising:

3 applying oligo assays onto a glass slide  
4 member;

5 installing said glass slide member into a  
6 genetic analysis device having a housing and an  
7 elastomer layer member;

8 passing samples and reagents through said  
9 genetic analysis device and contacting them with said  
10 oligo assays;

11 disassembling said genetic analyzer; and

12 analyzing said oligo assays on said glass  
13 slide member.

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